

CHAPTER VII

EXAMPLES OF DRILL JIG DESIGN

As jigs and fixtures are now used wherever machines and tools are constructed, the number of designs in use is practically endless, although a great many of the simpler jigs are constructed on the same general principle and differ chiefly in regard to form. There are, however, many distinct types which have been developed to handle different classes of work to the best advantage. Since the jig or fixture is designed around the part for which it is intended, the form and size naturally vary accordingly; but aside from such changes, there are many details for insuring accuracy of location and rapidity of clamping or releasing, which give the designer an opportunity for the display of judgment and ingenuity in producing a jig that is effective, and at the same time not unnecessarily complicated and expensive. In order to illustrate the relation between the work to be done and the design of the jig or fixture for that work, this chapter and those which follow will be confined largely to illustrated descriptions of designs taken from practice. In selecting these designs, the object has been to show as many types of jigs and fixtures as possible.

Drill Jig having Automatic Locating Devices. — In Fig. i is shown a combination flywheel and driving pinion A which is to be drilled and tapped for four hollow-point set-screws as shown. All the surfaces marked with dotted lines, as well as the bore, are finished before the wheel comes to the drilling machine. The problem was to construct a jig by which any unskilled laborer or boy could drill and tap these wheels quickly and correctly without any previous laying out of the holes. The jig had to be constructed so that it would be practically impossible to make any mistake in drilling when the work was properly clamped.